



Bernoulli News

Newsletter of the *Bernoulli* Society For Mathematical Statistics and Probability

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† Bernoulli News is the official newsletter of the Bernoulli Society, publishing news, calendars of events, and opinion pieces of interest to Bernoulli Society members, as well as to the Mathematical Statistics and Probability community at large. The views and opinions expressed in editorials and opinion pieces do not necessarily reflect the official views of the Bernoulli Society, unless explicitly stated, and their publication in Bernoulli News in no way implies their endorsement by the Bernoulli Society. Consequently, the Bernoulli Society does not bear any responsibility for the views expressed in such pieces.

A VIEW FROM THE PRESIDENT



Dear Members of the Bernoulli Society,

The first issue of Bernoulli News appeared, with me as founding editor, in June 1994, so almost precisely 15 years ago. Since then Bernoulli News has provided information on activities of the Society, also exciting stories, and sometimes interesting scientific pieces. The present issue is edited by our new editor: Manuele Leonelli replaces Miguel de Carvalho, and I want to thank Miguel for his excellent service and also wish Manuele as much pleasure as I had creating the first newsletters. And, whereas in the first issue 15 years ago, Ole Barndorff-Nielsen wrote the presidential letter, now I have the pleasure of writing “about recent undertakings aimed at strengthening the scientific impact of the Society and improving its services to the members”.

Before I tell you more about this, let me first thank the now past president Susan Murphy, who not only kept the Society running efficiently, but also started new initiatives. Under her presidency, a New Researcher Award was implemented. Proposed by BS Membership Secretary Leonardo Rolla and BS Youth Representative Roy Parthanil, a New Researcher Award Session took place at the ISI WSC in Kuala Lumpur this summer, and three prize winners had the chance to present their work.

Watch out for more information about our Awardees in this Newsletter!

Of utmost importance for the Society is the Scientific Secretary, and again there is a change of office: Song-Xi Chen follows Byeong U. Park (there is a photo in this Newsletter of both). During the past two years, as president-elect I well noticed that Byeong took on a huge amount of work, in particular in formulating and running all decisions to be taken by the Executive Committee and Council. He also kept an eye on everybody to follow BS Statutes and procedures. Thank you, Byeong! And I wish Song-Xi a smooth settlement into this position, where the running of BS relies so heavily on.

Another of Susan’s initiatives summarizes all publicity issues in a new standing committee: The Publicity Committee, chaired by Publicity Secretary Victor Panaretos, manages all issues related to publicity and the dissemination of information and news to members of the Bernoulli Society and beyond. It coordinates the publication of the Bernoulli [. . .]

... Continued on p. 1

Deadline for the next issue: 31 March, 2020
Send contributions to: manuele.leonelli@ie.edu

A View from the President (continued from front cover)

E-Briefs electronic newsletter (Carlos Amendola), and of the Society's print newsletter, Bernoulli News (Manuele Leonelli). It also manages the Society's webpage (Soutir Bandyopadhyay) and Twitter page (Corina Constantinescu). The Society should also become more visible in other social media, and if you would like to join the Committee for taking on such a task, please don't hesitate to write to Victor (victor.panaretos@epfl.ch) or myself (Bernoulli.President@ma.tum.de).

Get involved!

Following up on an idea by the former EAPRC Chair Kostya Borovkov, the Society has started a video website, where also some historic recordings, including one of the First World Congress of the Bernoulli Society in Tashkent (1986) can be found. This website should serve as future home of plenary and invited lectures of BS conferences. At this moment you find several videos of such lectures from 41st SPA in Evanston this summer. We very much hope to make more lectures of our main conferences available in the future.

Next year we will have our flagship Conference: the Bernoulli-IMS 10th World Congress in Probability and Statistics takes place in Seoul, South Korea, August 17-21, 2020. This promises to be an unforgettable event at a fabulous location. The invited speaker sessions have been almost completed and, believe me, they are very interesting. On the conference website

Editorial

This is my first issue as Editor of *Bernoulli News* and I am very excited to start this new adventure with you all!

Foremost, I would like to thank Miguel de Carvalho for his outstanding work as Editor for the past four years and for guiding me through the editorial process. Under his editorship, *Bernoulli News* has become a true reference for the whole Bernoulli Society. On behalf of the Bernoulli Society, I wish you the best for your future!

But it is also time to look forward and to welcome so many new members in the various committees of the Bernoulli Society. I wish a great work to our new President Claudia Klüppelberg as well as to all other new members (you can find their Bios on p. 8). Let me mention that Corina Constantinescu is now the Twitter manager of @BernoulliSoc which now includes all news and exciting contents from the Bernoulli Society: don't miss this opportunity to get involved and inter-

<http://www.wc2020.org> you find a very nice poster, which we hope that you print out and post it on the notice-board of your department. Registration will open soon. Let me repeat three suggestions from previous BS president Sara van der Geer after having visited the site (Bernoulli News 23(2), 2016): "Firstly, to consider staying at a youth hostel instead of a hotel. The hostels have no age limit and they are about as comfortable as most hotels here in Zürich but much cheaper. Secondly, to consider a trip to the North Korean border, for example the Mount Kumgang Tourist Region. Thirdly, to attend the General Assembly at this congress, we plan to have food and drinks!" .

Write this conference down in your agenda!

Exciting member news have reached me in the past months: Previous BS President (1989-1991) Albert Shiryayev celebrates his 85th birthday in October, and previous BS President (2013-2015) Wilfrid Kendall his 65th birthday in December. Moreover, our long-standing BS member Peter Donnelly has been knighted for his services to the understanding of human genetics in disease by Queen Elisabeth this summer.

The Bernoulli Society congratulates!

Claudia Klüppelberg
President of the Bernoulli Society
Munich

act with the society!

Let me also give a little preview of the possible novelties that will be introduced in the next issues of *Bernoulli News*. We are planning to include a new section on interviews with long-term, outstanding members of the Bernoulli Society, telling us about their careers and how the interactions with the society had an impact in their lives. We have some great names lined-up already, so stay tuned!!

The summer was full of exciting and inspiring events (you can read about these on p. 14), but we should all already look forward to the 2020 Bernoulli-IMS World Congress: don't miss the leaflet at the end of the issue!

I hope you will enjoy reading the issue just as much as I enjoyed editing it: the number and variety of activities of the Bernoulli Society is simply outstanding!

The Editor
Madrid

News from the Bernoulli Society

News from the General Assembly at ISI-WSC

The Bernoulli Society General Assembly approved new office appointments at the ISI World Statistics Congress 2019 in Kuala Lumpur.

Claudia Klüppelberg (TU Munich) became the new President of the Bernoulli Society (with Adam Jakubowski (University of Torun) as President-Elect) and Song Xi Chen (Peking University) replaced Byeong U. Park as Scientific Secretary.

We thank previous President Susan Murphy and previous Scientific Secretary Byeong U. Park for their dedicated service and steering of the society in the past years.

The following appointments were also approved: **Michael Beer** (University of Hannover) as new C(PS)2 Chair; **Marloes Maathuis** (ETH Zurich) as new European Regional Committee Chair; **Florencia Leonardi** (University of São Paulo) as new Latin American Com-

mittee Chair.

Moreover, a new post “Publicity Secretary” on the Executive Committee and a new standing “Publicity Committee” was established with Victor Panaretos as chair. This gives the ad-hoc officer Publicity Chair (Victor Panaretos, since February 2018) its proper status.

We thank Victor for his support in developing this important new committee.

Lastly, we are pleased to inform that Corina Constantinescu (University of Liverpool) is taking over as main responsible for the Bernoulli Society Twitter account, @BernoulliSoc. We encourage all BS members to follow the Bernoulli Society on Twitter!

*Carlos Améndola
Editor of e-Briefs
Munich*

Byeong Uk Park Steps Down as Scientific Secretary

All of us at the Bernoulli Society extend our thanks to Byeong Uk Park for his long service to the Bernoulli Society. Byeong’s performance as Scientific Secretary has set a high bar for all those that follow him! Much of the recent smooth running of the Bernoulli Society is attributable to Byeong. Thank you Byeong for keeping us all on track! We will miss you, but we welcome you in your new position as ISI Vice President.



Byeong Uk Park (left) and Song-Xi Chen (right)

*Susan A. Murphy
Past President of the Bernoulli Society
Cambridge, MA*

New Members of the Latin American Committee Elected

The results of the election of four new members of the Latin American Regional Committee of the Bernoulli Society - SLAPEM are now public.

The elected members for the period 2019-2021 are:

- Juan Carlos Abril (Argentina)
- Maria Eulalia Vares (Brasil)
- Richard Serrano-Agila (Ecuador)

- Juan Carlos Pardo Millán (México)

and the elected new Chair of the Committee for the period 2019-2021 is Florencia Leonardi (Brasil).

*Florencia Leonardi
Chair of SLAPEM
São Paulo*

Call for Hosting the XVI CLAPEM in 2022

Preliminary bids/expressions of interest should be emailed to the LARC’s chair Florencia Leonardi (florencia@usp.br) and LARC’s member Juan Carlos Abril (jabril@herrera.unt.edu.uy). The due date for bids is

February 29, 2020. A preliminary bid should specify names and affiliations of academics who have provisionally agreed to serve on the Local Organizing Committee.

It is helpful if preliminary bids contain information about the following:

1. The proposed site for the congress.
2. A range of proposed dates. The selection of this range should involve explicit consideration of various competing meetings and conferences around the world.
3. Consideration of likely attendance numbers.
4. Meeting facilities: there needs to be access to a large auditorium potentially able to accommodate 400 attendees, in addition to an adequate supply of breakout rooms for smaller sessions, and good supply of space for discussions over tea/coffee.
5. Accommodation: there needs to be a good supply of reasonably priced local accommodation. It is particularly helpful if some very cheap and basic accommodation is available.
6. Cost estimates on venue rent, catering twice daily coffee breaks, office staff support, for a range of attendance from 250 to 400 participants.
7. An estimate of a range of potential registration fees. As a very rough guide, registration fees should be loosely in line for example with those charged for the 2019 CLAPEM. Overall cost is a particularly sensitive issue to the Bernoulli Society members in general and LARC-SLAPEM's members in particular, due to very restrictive financial support in Latin American countries.
8. Previous events organised by the proposed Local Organising Committee or at least some of the participants.

Florencia Leonardi
Chair of SLAPEM
São Paulo

LARC-SLAPEM General Assembly at XV CLAPEM

The LARC-SLAPEM General Assembly will take place on Thursday 5, 2019, during the XV CLAPEM - Congreso Latinoamericano de Probabilidad y Estadística Matemática, that will occur in Mérida-Yucatán, México, from 2-6 December 2019. We invite all the LARC-SLAPEM members to participate in this Assem-

bly and to discuss possible future actions to promote collaboration and dissemination of Probability and Mathematical Statistics in the region.

Florencia Leonardi
Chair of SLAPEM
São Paulo

Bernoulli Society New Video Webpage

The Bernoulli Society Website has recently been extended to include a page dedicated to video-recordings of lectures related to the Society objectives and activities. It can be navigated to from the main menu on the home page of the Society, or accessed directly at <http://www.bernoulli-society.org/index.php/videos>. The page is basically a directory of the videos which are mostly hosted by YouTube.

The primary objective of the newly added page is to provide researchers in our area with access to high-level lecture courses aimed at PhD students and above, for example, those offered at various summer/winter schools. This objective is particularly important for young researchers and those without the resources to attend. Moreover, many of these lectures are given by top specialists, who have put a lot of time and energy into make them engaging and instructive, so it would be a waste not to make them available to a wider audience.

The page will also host video-recordings of invited and plenary lectures at major conferences in our research areas, such as the 41st SPA conference, which

already appears there. Another category of videos included on the page are "historical" ones, like the videos made at the First World Congress of the Bernoulli Society in Tashkent in 1986, and the recordings of lectures by the most prominent scientists working in our research fields.

To summarize, currently there are three broad categories of videos represented on the Bernoulli Society Web page: (i) special lectures, such as the special invited lectures at SPA conferences or Bernoulli-IMS World Congresses in Probability and Statistics, (ii) video courses and seminars, and (iii) historical recording, which currently include, in particular, two hours of Marc Yor's talks.

The newly added page is a work in progress, and will continue to be so for the foreseeable future, so please forgive us for its imperfections. New (and old) videos will continue to be added, and the structure of the page and the criteria for video selection are likely to change with time. It is impossible for us alone to locate all the video-recordings that are available on the web and are suitable for listing on the Bernoulli Society video-page, so we would be grate-

ful for any suggestions you may have. Please send them via email to borovkov@unimelb.edu.au (cc to nathan.ross@unimelb.edu.au).

This note in the Bernoulli News is also a call to all the future conference and school organisers in the area of mathematical statistics and probability theory to

make an effort to make high-quality video-recordings of the special invited and plenary talks at their events. Such recordings would be a valuable addition to the Bernoulli Society video collection.

*Kostya Borovkov & Nathan Ross
Melbourne*

Bernoulli Special Lectures at ISI-WSC

Two Bernoulli special lectures were given at the ISI World Statistics Congress held in Kuala Lumpur on the 18-23 of August, 2019.

The Bernoulli Journal Special Invited Lecture was given by Jonathan Taylor, Stanford University, with title “*A selective survey of selective inference*”. Jonathan discussed the misuse of statistical methods in the 21st century, giving examples from the popular press and the scientific literature, which may be caused by a shift in how data is used in the 21st century and the advent of sophisticated statistical software available to anybody.

The Bernoulli Society Presidential Invited Lecture was given by Michael Newton, University of Wiscon-

sin, with title “*On beneficial ways to combine clustering and hypothesis testing*”. Michael discussed ways to combine hypothesis testing and clustering for two specific data structures that occur in practice. In one case, data elements are associated with nodes of a known undirected graph, and the test at one node leverages information at neighboring nodes. Examples ranging from brain imaging to immune monitoring benefit from these methods. A second case is specific to molecular data that measure the expression of genes in single cells, and the problem is to assess significant expression changes between cells under different growth conditions.

*The Editor
Madrid*

Raising Awareness about the Circumstances of Tuna Altinel and other Turkish Colleagues

Tuna Altinel, an assistant professor at University Claude Bernard - Lyon 1 (France) since 1996 and a member of Institut Camille Jordan, spent 81 days incarcerated by the Turkish authorities (from Saturday 11 May until Tuesday 30 July, 2019). Internationally recognized as a mathematician, he is also a professor who stands as a model in clarity and dedication. He is currently forced to stay in Turkey.

Tuna Altinel is being prosecuted by the Turkish justice system for two reasons. First, signing a petition entitled “We, Turkish academics, will not be a party to this crime”, in January 2016. This petition denounced the intervention of Turkish military forces in the south-east provinces of Turkey since the summer of 2015 and called for the resumption of talks in order to restore peace. After the Constitutional Court ruled that the freedom of expression of the members of “Academics for Peace” has been violated, seventeen courts conclude now acquittals. Tuna Altinel has been discharged on September 16, 2019.

Second, participating in a public meeting—organized by an association legally recognized in France—aiming to raise awareness about the consequences of military intervention on the civilian populations. For the second trial, the first hearing was held on July 30, 2019, Tuna Altinel has been released without judicial control (contrary to the prosecutor’s

recommendation). The second hearing is scheduled on November 19, 2019. His request to get his passport back has been postponed.

Unfortunately, the situation of Tuna Altinel is not unique. Let’s mention Füsün Üstel, Noémi Lévy-Aksu and all academics suffering from a violation of their freedom of expression in Turkey. From a scientific point of view, since 2017, Tuna Altinel points out the exclusion of “Academics for Peace” from Tübitak, the Council for Scientific and Technical Research of Turkey, and asks all academics in the world to avoid participating to its calls.

A petition has been signed by almost 7000 persons, calling for Tuna Altinel’s immediate release and return to France, as well as respect for the fundamental rights of all the “Academics for Peace”: <https://math.univ-lyon1.fr/petitionTunaAltinel/en/free-tuna-altinel/>. All the signatories are warmly thanked. Even though Tuna Altinel’s release relieved us, the situation remains worrying and we keep mobilised. His passport is still confiscated which is totally unfounded.

The Academic Support Committee of Tuna Altinel:
<http://math.univ-lyon1.fr/SoutienTunaAltinel/>

*Anne Laure Fougeres, Cécile Mercadier
Lyon*

Snapshots

Activities Performed by the Chair of the ERC

The European Regional Committee supported two successful meetings in 2019: the 32nd European Meeting of Statisticians (EMS) in Palermo, Italy, and the 21st European Young Statisticians Meeting (EYSM) in Belgrade, Serbia. I would like to extend a warm thanks to everyone who contributed to these meetings.

We have already started the preparation for the 33rd EMS. The EMS is held every two years in odd-numbered years, except in those years in which the ISI World Statistics Congress takes place in Europe. If this happens, a meeting can instead be held in an even-

numbered year. The year 2021 is such an exception, since the 63rd ISI World Statistics Congress then takes place in The Hague, The Netherlands. We will therefore have the next EMS in 2022. The location of the meeting is already known: it will be in Moscow. This is the first time that the EMS will be hosted in Russia, and we are looking forward to supporting its organization.

*Marloes Maathuis
Chair of the ERC
Zurich*

Activities Performed by the Chair of the Publicity Committee

The publicity committee is the newest standing committee of the Bernoulli Society. It was originally formed as an ad-hoc committee in early 2018, on the initiative of Susan Murphy and Claudia Klüppelberg, when I was tasked to coordinate the society's various publicity outlets. The committee was eventually constituted formally in the 2019 Bernoulli Society GA in Kuala Lumpur, where its coordinator was given the formal office of "Publicity Secretary", and made an ex-officio member of the Executive Committee and Council. The now formal mission of the committee is to manage all issues related to publicity and the dissemination of information and news to members of the Bernoulli Society and beyond. It coordinates the publication of the Bernoulli E-Briefs electronic newsletter (Editor: Carlos Amendola, Munich), and of the Society's print newsletter, Bernoulli News (Editor: Manuele Leonelli, Madrid). It also manages the Society's webpage (Editor: Soutir Bandyopadhyay, Colorado) and social media presence. With regards to the latter, in particular, a novelty was the creation of a Twitter account (please do follow it at @BernoulliSoc) managed by Corina Constantinescu (Liverpool).

Our effort during the committee's 18 months of existence has been to re-organise and streamline some of the behind-the-scenes workflows and improve coordination and communication between the officers of the Society and the publicity team. Some of our outreach tools had been presenting signs of arrhythmia, and I think it is fair to say that they are now fully back on track. Other aspects of our effort are not directly

visible, but we hope that some of the results will eventually be felt in terms of an improved image projected by the Society. That is not to say that there are no immediately apparent novelties: one is our presence on Twitter, and the other is launching an effort to showcase some of our special invited lectures: a successful first run was carried out with SPA2019, and many of the special lectures there are now available on our website (thanks to Susan Murphy for supporting this strongly, and to Antonio Auffinger for carrying most of the weight of this effort in his LOC role).

There is still a lot of work to be done, but I am optimistic about our heading!

Perhaps oddly, this report on our first year-and-a-half of activity will also be my concluding report: I have recently become chair of my department, and requested that I be allowed to step down slightly earlier than the end of my term (Spring 2020), as my new commitments do not allow me to be as quick as I must be with matters related to publicity. Leonardo Rolla was gracious enough to agree to take over and I'm very pleased as I'm sure that he'll do a fantastic job. I'd like to thank him warmly. I would also like to thank Susan Murphy and Claudia Klüppelberg for their vote of confidence and our wonderful working relationship. And, of course, most of all I wish to thank our publicity team members, Carlos, Corina, Manuele, and Soutir, who have worked very hard and have done a fine job!

*Victor Panaretos
Chair of the Publicity Committee
Lausanne*

Awards and Prizes

Bernoulli Society New Researcher Award 2019

The New Researcher Award is meant for Bernoulli Society members who are active researchers of mathematical statistics. The main goal of this award is to recognize innovative research by new researchers. Out of 34 applicants, the award committee chose the following new researchers for the award: **Po-Ling Loh** (University of Wisconsin-Madison); **Gongjun Xu** (University of Michigan); **Lingzhou Xue** (Pennsylvania State University). Each of the above awardees was invited to deliver a 30-minute talk at the *Bernoulli Society New Researcher Award Session* in the *62nd ISI World Statistics Congress* held in Kuala Lumpur, Malaysia during August 18 - 23, 2019. They received funding from Bernoulli Society towards travel and other expenses. The titles of their talks given at the New Researcher Award Session (on 21st August, 2019) were as follows: *Optimization Challenges from Robust Statistics* (Po-Ling Loh); *Partial Identifiability of Restricted Latent Class Models* (Gongjun Xu); *Fisher's Combined Probability Tests for Complex High Dimensional Data* (Lingzhou Xue). Keeping in mind the strong pool of applicants for this award, the committee has chosen the following new researchers as honourable mentions: **Quentin Berthet** (Google Brain); **Sebastian Engelke** (University of Geneva); **Subhabrata Sen** (Harvard University).

Pictures and short bios of the winners are given below.

Dr. Po-Ling Loh



Dr. Po-Ling Loh received her BS from Caltech then moved to University of California, Berkeley, where she earned an MS in computer science and a PhD in statistics. After her PhD, Dr. Loh was an assistant professor in the Department of Statistics at the Wharton School, University of Pennsylvania for two years and then moved to University of Wisconsin-Madison, where she is currently an associate professor. Dr. Loh's work lies at the growing interface between optimization theory and robust statistics in the context of high-dimensional robust M-estimation.

Dr. Gongjun Xu



Dr. Gongjun Xu received his BS in Statistics from the University of Science and Technology of China and his PhD in Statistics from Columbia University. He joined the University of Michigan in 2017 after being an assistant professor at the University of Minnesota for three years. Currently, Dr. Xu is an assistant professor at the Department of Statistics, University of Michigan. Dr. Xu's research focuses on latent variable modeling, psychometrics, rare-event analysis, and semiparametric statistical models.

Dr. Lingzhou Xue



Dr. Lingzhou Xue received his B.Sc. in Statistics from Peking University and his PhD in Statistics from the University of Minnesota. After a postdoctoral research position at Princeton University, Dr. Xue joined the Department of Statistics, Pennsylvania State University as an assistant professor. He currently holds an associate professor position there. Dr. Xue studies statistical learning and inference driven by the analyses of high-dimensional, complex data in biomedical science, economic studies, and public health.

Dr. Quentin Berthet



Dr. Quentin Berthet is a research scientist at Google Brain. His main research interests are statistics and machine learning, optimization and computer science, and the trade-offs between statistical and algorithmic efficiency. Dr. Berthet obtained his Ph.D from Princeton University, was a CMI postdoctoral fellow at California Institute of Technology, and a faculty member at the University of Cambridge. He was also a fellow of St John's College and a Turing Fellow at the Alan Turing Institute before joining Google.

Dr. Sebastian Engelke

Dr. Sebastian Engelke is assistant professor at the Research Center for Statistics at the University of Geneva. He is currently visiting at the Department of Statistical Sciences at the University of Toronto. Previously he was an Ambizione fellow at École polytechnique fédérale de Lausanne. Dr. Engelke finished his PhD as a Deutsche Telekom Foundation fellow at the University of Göttingen. His research interests are in extreme value theory, spatial statistics, graphical models and data science.

Dr. Subhabrata Sen

Dr. Subhabrata Sen is an assistant professor at the Department of Statistics, Harvard University. Before joining Harvard, he was a Schramm Postdoctoral Fellow jointly at the Microsoft Research Lab - New England and the Department of Mathematics, Massachusetts Institute of Technology. Dr. Sen received his Ph.D. from Stanford University. His work covers statistics, machine learning and applied probability. He has recently been focusing on models for random graphs and contagion models on social networks.

On behalf of Bernoulli Society, I would like to congratulate the awardees, and thank all applicants as well as the award committee members for their effort in making this event a grand success.

Parthanil Roy
Bernoulli Youth Representative
Bangalore

The Bernoulli Prize for an Outstanding Survey Article in Statistics

The Bernoulli Prize for an Outstanding Survey Article in Statistics, sponsored by the Bernoulli Society for Mathematical Statistics and Probability, is to recognize authors of an influential survey publication in the areas of statistics. The paper should be timely in addressing areas of active or emerging importance, but have been in circulation long enough for there to be evidence of its impact.

The award consists of the prize amount of 1000€ together with an award certificate.

Call for nominations: Nominations for the 2022 Prize is open now. The prize will be presented at the 2023 ISI World Statistics Congress. Nominations should include full name and email address of both the nominee(s) and nominator, as well as a pdf file of the published survey article in statistics. The nomination material should be emailed to Professor Qiwei Yao at q.yao@lse.ac.uk.

Deadline for nominations: 28th February 2021.

Eligibility: The article should appear in a peer reviewed journal or book, but may be in either print or electronic format. The chief editor where the paper appears will receive an official congratulatory letter of notification from the President of the Bernoulli Society.

The 2022 Prize Committee: Rina Foygel Barber, University of Chicago; Axel Munk, University of Göttingen; Qiwei Yao (Chair), London School of Economics.

For further information on the Bernoulli Prize for survey articles in probability and statistics, visit <http://www.bernoulli-society.org/index.php/prizes?id=156>

Qiwei Yao
Chair of the awarding committee
London

Call for Nominations for the 2020 Doebelin Prize

The *Bernoulli Society for Mathematical Statistics and Probability* welcomes nominations for the 2020 Wolfgang Doebelin Prize.

The *Wolfgang Doebelin Prize*, which was founded in 2011 and is generously sponsored by Springer, is awarded biannually to a single individual who is in the beginning of his or her mathematical career, for outstanding research in the field of probability the-

ory. The awardee will be invited to submit to the journal *Probability Theory and Related Fields* a paper for publication as the *Wolfgang Doebelin Prize Article*, and will also be invited to present the *Doebelin Prize Lecture* in the the 10th IMS-BS World Congress in Probability and Statistics (to be held in Seoul National University, South Korea, on August 17-21, 2020), or at a later Conference on Stochastic Processes and their Ap-

plications.

More information about the *Wolfgang Doeblin Prize* and past awardees can be viewed at <http://www.bernoulli-society.org/index.php/prizes/>.

Each nomination should offer a brief but adequate case of support and should be sent by December 30,

2019, to the chair of the prize committee at the following e-mail address: zqchen@uw.edu with subject heading: Doeblin Prize 2020.

Zhen-Qing Chen
Chair - Conferences on Stochastic Processes
Seattle

Knighthood for Professor Peter Donnelly

Congratulations to Prof Peter Donnelly, a long-time member of the Bernoulli Society, who has been knighted for services to the understanding of human genetics in disease. Peter is Professor of Statistical Science in the Wellcome Centre Trust for Human Genetics (WCTHG) at Oxford and Chief Executive Officer of Genomics plc, a University spin-out. Born in Australia, Peter has been a pioneer in bringing statistical methods to genetic science. He studied at Balliol (Rhodes Scholar), is now a Fellow of St Anne's and former posts include Head of the Department of Statistics at Oxford University. Again, congratulations from the whole Bernoulli Society!!



The Editor
Madrid

Mathias Drton is Awarded the Ethel Newbold Prize

Congratulations to Mathias Drton who was selected by the Prize Committee (Chaired by Eva B. Vedel Jensen) as the winner of the Ethel Newbold Prize. The prize was announced at Kuala Lumpur during the ISI World Statistics Congress.

The Ethel Newbold Prize is to be awarded biannually to an outstanding statistical scientist in early or mid-career for a body of work that represents excellence in research in mathematical statistics, and/or excellence in research that links developments in a substantive field to new advances in statistics. The name of the prize recognizes a historically important role of women in statistics. The prize itself is for excellence in statistics without reference to the gender of the recipient. The Ethel Newbold Prize is generously supported by Wiley.



Mathias is Professor of Mathematical Statistics at the Department of Mathematics of the Technical University of Munich from September 16. He has also been elected recently as a foreign member of the Royal Danish Academy of Sciences and Letters. His current research interests revolve around graphical models, algebraic statistics, and problems of model selection.

The Editor
Madrid

New Executive Members in the Bernoulli Society

Scientific Secretary: Song Xi Chen



Short Bio: Song Xi Chen is a University Chair Professor in Statistics and Econometrics and the founding director of Center for Statistical Science, Peking University. His research areas includes high dimensional statistics inference, inference for stochastic processes, environmental applications, empirical likelihood. He is a fellow of Institute of Mathematical Statistics, American Statistical Association, and American Association for the Advancement of Science, and an elected member of ISI. He was a three term Associated Editors of *The Annals of Statistics* and two term AE for the JBES, and is an Associate Editor of JASA and *Environmetrics*. He is leading a team on assessing the air quality in China.

Treasurer: Geoffrey Grimmett



Short Bio: Geoffrey Grimmett was educated at Oxford University before moving in 1976 to Bristol University for his first tenured post. After sixteen wonderful years in Bristol, he moved in 1992 to the Statistical Laboratory of Cambridge University as Professor of Mathematical Statistics. He was Master of Downing College, Cambridge, from 2013-2018, and has been appointed Chair of the Heilbronn Institute for Mathematical Research from September 2020. His interest in disordered physical systems, including percolation and related processes, was sparked through interaction with John Hammersley, nurtured by Dominic Welsh, and confirmed through the intervention of Harry Kesten. He has written numerous research articles in probability theory and statistical mechanics, as well as three research books entitled *Percolation* (1999), *The Random-Cluster Model* (2006), and *Probability on Graphs* (2010). With David Stirzaker and Dominic Welsh respectively, he has co-authored two successful textbooks on probability and random processes at the undergraduate and postgraduate levels. As Treasurer of the Bernoulli Society, he will take a hard-nosed look at the current financial position, and will seek to identify and develop opportunities for supporting the principal targets and initiatives of the Society.

Chair of Latin American Regional Committee: Florencia Leonardi



Short Bio: Florencia Leonardi received the bachelor's degree in mathematics from the University of Mar del Plata, in 2002 and the PhD degree in bioinformatics from the University of São Paulo, in 2007. After a short postdoctoral period in the same institution, she became adjoint professor in the Institute of Mathematics and Statistics, University of São Paulo, in 2008, and associate professor since 2017. During 2014-2015, she spent a sabbatical year as a visiting professor with ETHZ, Switzerland. Since 2019 she is Associate Editor of *ALEA - Latin American Journal of Probability and Mathematical Statistics*. Her main research interests include inference and applications of stochastic processes, random graphs and networks, and high dimensional statistics. More information can be found at www.ime.usp.br/~leonardi.

Vision on the LARC: It is a great pleasure to take over the role as chair of the Latin American Regional Committee (LARC). The LARC was created in the 80's to promote regional cooperation in the fields of probability and mathematical statistics and their applications. The main event in the region promoted by the Committee is the Congreso Latinoamericano de Probabilidad y Estadística Matemática (CLAPEM), organised every two or three years in a different country. The Committee also promotes and organises the Aranda-Ordaz Prize that awards the best PhD thesis in Probability and in Mathematical Statistics by a Latin American student. This year, the CLAPEM will occur in Mérida-Yucatán, México, between 2-6 December, where the winners of the Aranda-Ordaz Prize will be announced and invited to deliver a conference. I would like to thank the organisers of CLAPEM and the jury of the Aranda-Ordaz Prize for their significant contribution to promote the collaboration and dissemination of the area in the region. I am looking forward to see you in México!



Articles and Letters

Random planar geometry through the lens of uniform spanning tree

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Communicated by the Editor

This article summarizes ideas from the *Bernoulli New Researcher Award 2020*. We review several aspects of the scaling limit of planar uniform spanning tree, providing intuition behind important objects in random planar geometry and their relations, including Schramm Loewner evolution, Gaussian free field, imaginary geometry, Liouville quantum gravity, and mating of tree.

Since the work of [2, 16, 21], uniform spanning tree has become an important topic in probability. In particular, the scaling limits of uniform spanning tree on large planar lattices and random planar maps played a major role in some of the most significant discoveries in random planar geometry, including Schramm-Loewner evolution, imaginary geometry, and mating-of-trees theories. In this paper we give an overview of this story.

§1. Uniform spanning tree on \mathbb{Z}^2 and SLE_8

Given a finite connect graph G , a *spanning tree* on G is a connected subgraph on G without cycles and containing all its vertices. The **uniform spanning tree (UST)** on G is the uniform measure on the set of spanning trees of G . Let \mathfrak{T}_N be a sample of UST on the grid $[-N, N]^2 \cap \mathbb{Z}^2$. For each $n \in \mathbb{N}$, $\mathfrak{T}_N \cap [-n, n]^2$ weakly converge in the total variation sense as $N \rightarrow \infty$, which defines a limiting law on random subsets of \mathbb{Z}^2 supported on spanning trees of \mathbb{Z}^2 [16]. We call the limiting law *UST on \mathbb{Z}^2* .

Let \mathfrak{T} be a sample of UST on \mathbb{Z}^2 . Then \mathfrak{T} is almost surely *one-ended* [16], namely, the symmetric difference of any two infinite simple paths on \mathfrak{T} is a finite set. Therefore, given a vertex $v \in \mathbb{Z}^2$, there exists a unique semi-infinite simple path on \mathfrak{T} starting from v , which we call the *branch* of \mathfrak{T} from v . Now each edge of \mathfrak{T} can be unambiguously assigned an arrow pointing towards ∞ so that the branch from a vertex v is obtained by starting from v and moving on \mathbb{Z}^2 along these arrows. This way, branches of \mathfrak{T} can be viewed as flow lines of a discrete vector field.

It is natural to consider the continuum limit of \mathfrak{T} as the lattice mesh size tending to 0. Motivated by this problem, Schramm [18] defined a family of random curves now known as **Schramm-Loewner evolution** with parameter $\kappa > 0$ (SLE_κ), which are characterized by conformal invariance and a spatial version of Markov property. The parameter κ indexes the roughness of the curve. In particular, the dimension of SLE_κ is $(1 + \frac{\kappa}{8}) \wedge 2$.

In [18], Schramm conjectured that the scaling limit of the branch of \mathfrak{T} is an SLE_2 curve. This is proved by Lawler, Schramm and Werner [12]. Moreover,

they also considered another curve associated with \mathfrak{T} called the **Peano curve**. Note that given \mathfrak{T} , there is a unique *dual spanning tree* \mathfrak{T}' on the lattice $\mathbb{Z}^2 + (\frac{1}{2}, \frac{1}{2})$ such that \mathfrak{T} and \mathfrak{T}' never cross each other. The *Peano curve* λ of \mathfrak{T} is the interface between \mathfrak{T} and \mathfrak{T}' . By convention, we orient λ such that \mathfrak{T} is on its left side. See the Figure 1 for an illustration of a portion of $(\mathfrak{T}, \mathfrak{T}', \lambda)$ near the origin. It was proved that the scaling limit of λ is a random space-filling curve, which is a variant of SLE_8 called the **whole-plane space filling** SLE_8 . (Results in [12] are proved in the setting of bounded domain with two boundary points. But they are easy to extend to the whole plane.) Since [12,18], SLE has been proved or conjectured to be the scaling limit of many important 2D statistical mechanics models.

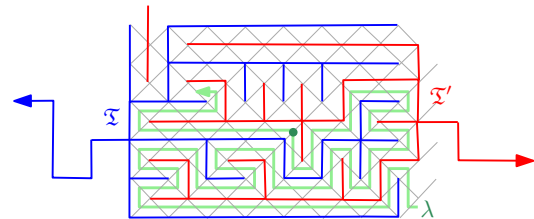


Figure 1: Spanning tree on \mathbb{Z}^2 and its Peano curve

Let η be a whole plane space-filling SLE_8 . For each fixed point $z \in \mathbb{C}$, almost surely η visits z exactly once. The set of points visited before (resp., after) z , including z , form a topological closed half plane. The border between these two half planes is the union of two non-self-crossing curves η_L^z and η_R^z from 0 to ∞ . We call η_L^z and η_R^z the *left and right boundaries* of η at z , respectively. The curve η_L^0 (resp., η_R^0) is the scaling limit of the branch on \mathfrak{T} (resp., \mathfrak{T}') from the origin (resp., $(\frac{1}{2}, \frac{1}{2})$). Therefore they are coupled SLE_2 curves. The set of simple curves $\{\eta_z^L\}_{z \in \mathbb{Q}^2}$ form a continuum tree, which can be thought of as the scaling limit \mathfrak{T} . The same holds for $\{\eta_z^R\}_{z \in \mathbb{Q}^2}$ and \mathfrak{T}' . For $z, w \in \mathbb{Q}^2$, η visits z before w if and only if η_z^L merges with η_w^L from the left side of η_w^L . This uniquely determines η given $\{\eta_z^L\}_{z \in \mathbb{Q}^2}$. We say that η is the Peano curve of $\{\eta_z^L\}_{z \in \mathbb{Q}^2}$.

§2. Imaginary geometry

Recall that in Section 1, branches of \mathfrak{T} can be viewed as flow lines of a discrete vector field associated with \mathfrak{T} . It is natural to wonder whether $\{\eta_z^L\}_{z \in \mathbb{Q}^2}$ are flow lines of a random vector field on \mathbb{C} in the continuum. This is made possible by the theory of **imaginary geometry (IG)**, developed by Debudát, Miller and Sheffield. (See [3, 15] and references therein.)

The construction of the random vector field relies on **Gaussian free field (GFF)**. Given a planar domain D , the Dirichlet GFF on D is the Gaussian field on D with covariance kernel $G_D(x, y)$, where G_D is the Dirichlet Green function on D . Given the logarithmic singularity of G_D on the diagonal, h is only a generalized function. We will encounter a few random generalize functions which locally look like a Dirichlet GFF. We refer them as variants of GFF. See [4, 15] for their precise definitions.

The key idea of IG is the following. Set $\chi(\kappa) := \frac{2}{\sqrt{\kappa}} - \frac{\sqrt{\kappa}}{2}$. Suppose $\chi = \chi(2) = \sqrt{2}/2$ and \mathfrak{h} is a variant of GFF called the *whole plane GFF modulo $2\pi\chi$* . Then the “differential equation”

$$\dot{\eta}(t) = \exp\{i\mathfrak{h}(\eta(t))/\chi\}, \quad t \geq 0 \quad (1)$$

makes sense. Due to the roughness of \mathfrak{h} , the right interpretation of (1) is that there is a way of coupling (\mathfrak{h}, η) that satisfies the transformation rule which are supposed to be satisfied by solutions to (1). For $z \in \mathbb{C}$, the solution to (1) satisfying $\eta(0) = z$ is a measurable function of \mathfrak{h} with the law of η_z^L . We call it the *flow line* from z in (\mathfrak{h}, χ) -IG. We can couple \mathfrak{h} and η such that for each fixed z , almost surely η_z^L is the flow line from z in (\mathfrak{h}, χ) -IG. Intuitively, $e^{i\mathfrak{h}/\chi}$ is the continuous vector field coupled with η .

An important source of inspiration for IG is the *Temperley bijection*, which relates a spanning tree in one graph to a dimer (i.e. perfect matching) on another graph. The discrete analog of \mathfrak{h} in the *height function* of the dimer configuration associated with \mathfrak{T} . The appearance of GFF is natural from Kenyon’s work [11] on the convergence of dimer height function to GFF. (See [3, Section 1.1] for more details.)

Equation (1) makes sense for all $\kappa \in (0, 4)$, where $\chi = \chi(\kappa)$ and \mathfrak{h} is a whole plane GFF modulo $2\pi\chi$. The flow lines in (\mathfrak{h}, χ) -IG are then SLE_κ curves. As in the $\kappa = 2$ case, flow lines from different points almost surely intersect, and merge upon intersection. By looking at flows lines from points in \mathbb{Q}^2 , we get a continuum tree similar to $\{\eta_z^L\}_{z \in \mathbb{Q}^2}$. We can still define its Peano curve as in the end of Section 1. This curve is an $\text{SLE}_{16/\kappa}$ type curve which we call the *whole plane space-filling $\text{SLE}_{16/\kappa}$* .

IG is a very powerful framework for studying SLE. For example, it provides the construction of space fill-

ing SLE_κ for all $\kappa > 4$, which is a key ingredient in the mating-of-trees theory (see Section 4). The qualitative property of space filling SLE_κ for $\kappa > 8$ is similar to SLE_8 , but for $\kappa \in (4, 8)$ it is quite different and nontrivial. IG is also the key tool in the resolution of several long-standing problems on SLE, including the reversibility for $\kappa \in (4, 8)$ [14] and the almost sure multi-fractal spectra [9].

§3. UST on random planar maps and Liouville quantum gravity

A *planar map* is a graph embedded in the plane, viewed modulo orientation preserving homeomorphisms. We will always consider *rooted* planar map, where there is a marked directed edge, called the *rooted edge*. Let \mathcal{MT}_n be the set of triples (M, e, T) where M is a planar map rooted at e with n edges, and T is a spanning tree of M . In this section we describe a conjecture on the scaling limit of a uniform sample from \mathcal{MT}_n as $n \rightarrow \infty$, which is rooted in a subject called **Liouville quantum gravity (LQG)**. Our discussion assumes little background on LQG. So we omit a review of this rapidly growing subject and refer to [7] for a up-to-date survey with an emphasis on the mating of trees (see Section 4).

We first describe the conjecture and then explain the idea behind. Let (M_n, e_n, T_n) be a uniform sample from \mathcal{MT}_n . By planarity, we can still define the dual tree and Peano curve of T_n as in the \mathbb{Z}^2 -case. But unlike \mathbb{Z}^2 , the embedding of M_n on \mathbb{C} is not specified. We fix it *conformally* as follows. For each face in M_n , we decompose it into triangles by drawing an edge from its center to its vertices, and endow each triangle with the surface structure of an equilateral triangle. This makes M_n a piecewise linear manifold with conical singularities. By the uniformization theorem, there is a conformal map from M_n to the Riemann sphere $\widehat{\mathbb{C}} = \mathbb{C} \cup \{\infty\}$. For concreteness, we fix the conformal map by first uniform choosing two edges e_n^0, e_n^1 on M_n and then mapping the midpoints of e_n^0, e_n^1, e_n to $0, 1, \infty$ respectively. Under this embedding, the Peano curve of T_n becomes a curve η_n on $\widehat{\mathbb{C}}$. The conjecture is that modulo monotone reparametrization, η_n weakly converge to a whole-plane SLE_8 curve η as $n \rightarrow \infty$, just as in the \mathbb{Z}^2 -case. (Here η is viewed as a continuous curve on $\widehat{\mathbb{C}}$ by compactification.) Moreover, the convergence holds even if we condition on $\{M_n\}_{n \in \mathbb{N}}$.

The planar geometry of M_n under the embedding is also expected to have an intriguing scaling limit. Under proper rescaling, the metric and measure on $\widehat{\mathbb{C}}$ induced by the vertex-counting measure and graph metric of M_n are supposed to jointly converge to a metric-measure pair (d, μ) on $\widehat{\mathbb{C}}$ with the form

$$d = e^{\sqrt{2}h/\dim} |dz| \text{ and } \mu = e^{\sqrt{2}h} dx dy, \quad (2)$$

where h is a variant of GFF called the *unit-area $\sqrt{2}$* -

LQG sphere and \dim is a currently unknown constant describing the dimension of (d, μ) . Since GFF is a generalized function, both d and μ are measurable functions of h that need to be defined via regularization procedures. The measure version was done in [5]. The metric one is much more challenging and was only achieved very recently [8].

To understand (2), note that the marginal law of (M_n, e_n) is the uniform measure on \mathcal{MT}_n , reweighed by the number of spanning trees which, by Kirchhoff's theorem, equals the determinant of the graph Laplacian of M_n . It is reasonable to think that the uniform measure on \mathcal{MT}_n is a good approximation of the "uniform measure" Dg on the space of Riemannian manifolds of sphere topology, unit volume, with one marked point. Moreover, the marginal law of (M_n, e_n) is a good approximation of $\det(\Delta_g) \cdot Dg$ where Δ_g is the Laplacian-Beltrami operator of a given metric tensor. According to a formal differential geometry argument called the *DDK-ansatz*, after applying the uniformization theorem to embed a sample from $\det(\Delta_g)Dg$ onto $\widehat{\mathbb{C}}$, the metric and volume measure on $\widehat{\mathbb{C}}$ have the law of (d, μ) .

More generally, given $c \in (-\infty, 1)$, suppose (M_n, e_n) has the law of uniform measure weighted by $\det(\Delta_{M_n})^{-c/2}$ where Δ_{M_n} is the determinant of the graph Laplacian of M_n , then the metric and measure on $\widehat{\mathbb{C}}$ induced by M_n is believed to converge weakly to (d, μ) in (2), with $\sqrt{2}$ replaced by the unique $\gamma \in (0, 2)$ satisfying $c = 25 - 6(\gamma/2 + 2/\gamma)^2$. The random geometry governed by GFF as in (2) is called γ -Liouville quantum gravity. The dimension constant \dim depends on γ . The exact value is known only when $c = 0$ and $\gamma = \sqrt{8/3}$, where $\dim = 4$. In this case the metric-measure space (d, μ) modulo isomorphism is called the *Brownian map*.

There is a wide range of 2D statistical mechanics models whose partition function are believed to be asymptotically described by $\det(\Delta_{M_n})^{-c/2}$ for some $c \in (-\infty, 1)$, such as percolation ($c = 0$) and critical Ising model ($c = 1/2$). This generates conjectures on the convergence of appropriately weighed random planar map models to γ -LQG, whose proof would be a rigorous justification of the aforementioned DDK-ansatz. There are several degrees of freedom in these conjectures, such as the type of maps involved, the topology of the underlying surface, and the choice of discretization of the conformal embedding. LQG is supposed to be the universal scaling limit which is stable under these modifications of details.

We are left to explain why the Peano curve η_n should converge to a whole-plane SLE_8 . This is due to the universality of SLE_8 . Namely, SLE_8 should be the scaling limit of UST on a large class of embedded, asymptotically infinite, planar graphs, which include conformally embedded random planar maps that converge

to LQG. The same belief holds for other conformally invariant planar processes including planar Brownian motion and SLE_κ for any $\kappa > 0$. This generates a large class of conjectures on the scaling limit of statistical mechanics models on random planar maps. In particular, we believe that conditioned on $\{M_n\}_{n \in \mathbb{N}}$, the simple random walk on M_n converge to the planar Brownian motion. (This is the so-called *quenched* scaling limit.)

The only setting where the two classes of conjectures described above are proved is the critical site percolation on uniform triangulations under the so-called *Cardy embedding*, by Holden and the author [10]. However, as we will see in Section 4, substantial progress has been made in great generality.

§4. *Mating of trees*

A (rooted) planar map with a single face is called a *planar tree*. The **continuum random tree (CRT)** is the $n \rightarrow \infty$ scaling limit of the uniform sample on planar trees with n edges as metric-measure spaces. Given a uniform sample (M_n, e_n, T_n) in \mathcal{MT}_n as above, let T'_n be the dual spanning tree of T_n . Sheffield [20] made the simple observation that (T_n, T'_n) as planar trees converge to a pair of independent CRTs. Motivated by this observation and similar phenomenas in other models, Duplantier-Miller-Sheffield [4] established the **Mating of trees (MOT)** theory. (See [7] for more background.)

Let (h, μ) be as in (2) and η be a whole plane space-filling SLE_8 independent of (h, μ) . For any $z \in \mathbb{C}$, h induces a measure on η_z^L (recall the notations in Section 1) called the *quantum natural measure* [19], which is supposed to be the scaling limit of the vertex countermeasure of the branch on T_n starting from a vertex very close to z under the conformal embedding of M_n . The quantum natural measure on curves in $\{\eta_z^L\}_{z \in \mathbb{Q}^2}$ and the restriction of μ make $\cup_{z \in \mathbb{Q}^2} \eta_z^L$ a metric-measure space \mathcal{T} . The *MOT theorem* asserts that \mathcal{T} is a CRT. (More precisely, \mathcal{T} is the metric completion of $\cup_{z \in \mathbb{Q}^2} \eta_z^L$ and μ is extended to be a measure on \mathcal{T} assigning zero mass outside $\cup_{z \in \mathbb{Q}^2} \eta_z^L$.) By symmetry h defines another CRT \mathcal{T}' using $\{\eta_z^R\}_{z \in \mathbb{Q}^2}$. The MOT theorem further asserts that \mathcal{T}' and \mathcal{T} are independent. Moreover, (h, η) can be recovered from $(\mathcal{T}, \mathcal{T}')$ modulo the trivial randomness coming from fixing the conformal embedding of M_n . The independence of η and h here is consistent with the conjecture that the Peano curve of T_n converge to η conditioned on $\{M_n\}_{n \in \mathbb{N}}$.

To state MOT theorem for general $\gamma \in (0, 2)$, let (h, μ) be as defined in (2) with γ in place of $\sqrt{2}$. Let η be a whole plane space-filling SLE_{16/γ^2} independent of (h, μ) . Then everything in the $\gamma = \sqrt{2}$ case described above still holds, except that \mathcal{T} and \mathcal{T}' are not independent anymore. To describe the correlation of $(\mathcal{T}, \mathcal{T}')$, we parameterize η as a function from $[0, 1]$ to the Riemann sphere $\widehat{\mathbb{C}}$ such that $\eta(0) = \infty$ and

$\mu(\eta([0, t])) = t$ for each $t \in [0, 1]$. Let L_t and R_t be the \mathcal{T} - and \mathcal{T}' -distance between $\eta(t)$ to $\eta(0)$, respectively. Then $(Z_t)_{0 \leq t \leq 1} := (L_t, R_t)_{0 \leq t \leq 1}$ is a Brownian motion with correlation $-\cos(\pi\gamma^2/4)$ conditioning on staying in the first quadrant and returning to 0 at $t = 1$. Here L (resp., R) is the classical *contour functions* of the CRT \mathcal{T} (resp., \mathcal{T}').

It is possible to mimic the definition of Z to associate $(M_n, e_n, T_n) \in \mathcal{MT}_n$ with a lattice walk Z^n , which encodes all the information of (M_n, e_n, T_n) . The law of Z^n is in fact just the simple random walk on \mathbb{Z}^2 conditioned on staying in $[0, \infty)^2$, with duration $2n$, starting and ending at 0. This lattice walk encoding of (M_n, e_n, T_n) is called *Mullin's bijection*. Since Z also encodes (h, η) , we can view the convergence of Z^n to Z as a convergence of (M_n, e_n, T_n) to (h, η) , which we call the *MOT convergence*.

MOT is the most fundamental tool in the study of the relation between random planar map with decorations and SLE/LQG. Usually, one first proves the MOT convergence and then extracts more interesting consequences by combining with model-specific techniques. In some cases, it gives results that are expected from scaling limit conjectures explained in Section 3. For example, it is proved in [6] that the expected diameter of M_n from the triple (M_n, e_n, T_n) grows like $n^{\frac{1}{\dim} + o_n(1)}$, with \dim in (2).

MOT also reveals unexpected connections between some classical combinatorial models and SLE/LQG. Given a triangulation without self loops or multiple edges, a *Schnyder wood* is a collection of three spanning trees satisfying certain local constraints. It was introduced by Schnyder to give an efficient algorithm to embed triangulations such that vertices are on \mathbb{Z}^2 and edges are non-crossing line segments [17]. Consider the uniform sample X_n from the set of triangulations of $3n$ edges with a Schnyder wood on it. Since there are three spanning trees, we can define three lattice walks as Z^n above by Mullin's bijection. Li, Watson and the author [13] proved that these three walks joint converge as $n \rightarrow \infty$.

To describe the scaling limit, let \mathfrak{h} be as in (1) with $\chi = \chi(1)$, namely a whole-plane GFF modulo $2\pi\chi(1)$. Let η_1 be the whole-plane space-filling SLE₁₆ associated with the (\mathfrak{h}, χ) -IG as described at the end of Section 2. Let η_j ($j = 2, 3$) be the whole-plane space-filling SLE₁₆ associated with the $(\mathfrak{h} + 2j\pi\chi/3, \chi)$ -IG. Let h be as in (2) with $\sqrt{2}$ replaced by $\gamma = 1$. Let Z_j ($j = 1, 2, 3$) be defined as Z above with (h, η) there replaced by (h, η_j) . Then (Z_1, Z_2, Z_3) is the scaling limit of the three walks.

Based on this convergence, we proved in [13] that uniform Schnyder wood-decorated triangulation has a scaling limit under Schnyder's embedding [17] which can be described in terms of SLE and LQG. Moreover, we conjecture that X_n converge to SLE₁₆ coupled with

LQG with $\gamma = 1$ in the stronger sense described in Section 3. If the triangulation is the regular triangular lattice, the Schnyder wood turns out to be a *20-vertex configuration*, an orientation where each vertex has three incoming and outgoing arrows. We believe that the SLE₁₆-scaling limit still holds for 20-vertex model [1] with uniform weights.

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Statistics conference: June 17–21, 2019; Leiden, The Netherlands



In honor of Aad van der Vaart's 60th birthday, a statistics conference was held June 17-21, 2019 in Leiden, The Netherlands.

Aad van der Vaart has shaped mathematical statistics through his wide range of contributions including seminal work on empirical processes, likelihood based methods and semiparametric statistics. He is well known for the Ghosal-Ghosh-van der Vaart theory for nonparametric Bayes. In addition, Aad has been contributing to many fields in applied statistics, in particular statistical genetics and genomics. He is author of several excellent books that are standard references and basis of statistics courses worldwide. For his work, Aad received numerous awards and honors.

The conference brought together Aad's collaborators and leading researchers in theoretical and applied statistics. The program consisted of a keynote

lecture by Bradley Efron entitled Prediction, Estimation and Attribution, as well as 31 invited lectures on topics including nonparametric Bayes, high-dimensional/nonparametric statistics, inverse problems, causal inference and applications of statistics in the life sciences. The inspiring lectures, the presence of approximately 200 participants, a competitive soccer game, a conference dinner in Leiden's beautiful Hortus Botanicus, and the many shared anecdotes of Aad's scientific life all contributed to a very lively scientific event.

For details about the conference, please visit <http://pub.math.leidenuniv.nl/~schmidthieberaj/aadbirthday/index.html>.

*Mathisca de Gunst
On behalf of the organisers
Amsterdam*

EVA 2019: July 01–05, 2019; Zagreb, Croatia



The 11th Conference on Extreme Value Analysis – EVA 2019 - was held on July 1-5, 2019 at the Faculty of Science, University of Zagreb. Over the years, EVA conferences have become regular biannual gathering for researchers, scientists and practitioners working in a number of areas where statistics of extremes play an important role.

After the last three meetings in Ann Arbour, Shang-

hai, and Delft, the conference in Zagreb confirmed the trend of growth in the number of participants and contributors. It was one of the largest EVA meetings so far, with over 300 registered participants, 109 contributors and 63 invited talks and 30 poster presenters. The scientific programme was composed by the Committee chaired by Holger Rootzén. During preparations for the meeting, the organizers received generous support and encouragement from a number of

people working in the field. The team behind the previous meeting in Delft was of particularly great help.

One day before the conference officially kicked-off, a satellite tutorial on Statistical Computing for Extremes with R was organized by a team led by Raphaël Huser and Olivier Wintenberger. After the tutorial, the participants and lecturers met with the early arrivers to the conference for drinks and registration at the Botanic Garden of the University.

The social programme included the welcome reception at the Palace Dverce on Monday and a less formal reception following poster presentations on Tuesday. On that occasion, nearly half of the poster presenters chose to promote their work in a separate poster blitz session. On Wednesday, Anthony Davison and Jonathan Tawn gave a joint overview lecture on practical issues in the statistics of environmental extremes. This was followed by a lively panel discussion about the practice of extreme value statistics organized by Jennifer Wadsworth. Discussions had to be shortened because the afternoon was set for the excursion. Many participants joined one of the two activities: a shorter guided tour of the city and a longer trip to Plitvice Lakes National Park, a place widely known for the beauty of its sixteen lakes and a series of waterfalls. Trees and water offered a refreshing change of scenery for the determined participants who selected the ride to the Lakes.

On Thursday, the best student paper award was announced and presented by the Editor of the journal *Extremes* - Thomas Mikosch. Among the 29 candidates for the award, 11 were selected to present their work at EVA, five of them received a written recognition from a committee which decided to award the first prize (sponsored by Springer) to Zheng Gao (University of Michigan) for the presentation Concentration of maxima and the fundamental limits of exact support recovery in high dimensions. On the final day of the conference, Raphaël Huser presented prizes

to the winners of the data challenge competition. In months leading to the conference, Raphaël challenged the participants to accurately predict the distribution of extreme events based on spatio-temporal data from which more than 30% of data points were artificially removed. The top prize (sponsored by the insurance company Croatia osiguranje) went to a duo of young students from Delft: Dan Cheng and Zishun Liu. The second and the third prize went to the teams from Zagreb and Lausanne, respectively. One of the last sessions on Friday was dedicated to the ideas, history and people behind the theory of regular variation. The development of this theory was instigated by two eminent mathematicians born in Zagreb - Jovan Karamata and William Feller. It soon became apparent that regularly varying distributions play a key role in many segments of extreme value theory. Particularly inspiring talks on the subject were given by Rene Schilling, Nick Bingham and Laurens de Haan, whose talk concluded a very enjoyable and stimulating week. Additional information, the book of abstracts and a photo gallery can be found at the conference web-site web.math.hr/eva2019.

The conference was held under the patronage of the Bernoulli Society. In addition to the two companies mentioned above, EVA 2019 received additional support from the Croatian Academy of Sciences and Arts, the Zagreb Tourist Board, Zagrebačka banka and the Association of Croatian Pension Funds. During the summer after the conference, the local organising committee was delighted to receive many positive comments, apparently going beyond the standard courtesy. We wish to thank all the participants, the Scientific Committee, the sponsors, and the technical co-organiser Globtour Event for making EVA 2019 so inspiring and memorable.

Bojan Basrak
Chair of the Organizing Committee
Zagreb

SPA 2019: July 8–12, 2019; Evanston, Illinois, USA



Northwestern University hosted the 41st Stochastic Processes and their Applications conference July 8–12, 2019 with 277 registered participants coming from 34 different countries. The most represented were the USA, Canada, Germany, Mexico, and the UK. The conference program consisted of 13 plenary talks, 48 invited talks, and 86 contributed talks. All talks and coffee breaks took place in the same building on campus with beautiful views of Lake Michigan.

Four food trucks were one of the highlights of a fantastic outdoor Monday reception during which Krzysztof Burdzy announced that Allan Sly was the recipient of the 2019 Loève prize. Allan was present to be congratulated as he was one of the 13 plenary speakers.

The Doob lecture was delivered by Jeremy Quastel while the Schramm lecture was given by Stanislav Smirnov. Massimiliano Gubinelli, Jason Miller and Zhen-Qing Chen gave the Lévy, Doebelin, and Ito lectures respectively. The two IMS Medallion lecturers

were Étienne Pardoux and Krzysztof Burdzy. The remaining plenary speakers were Béatrice de Tilière, James R. Lee, Dmitry Panchenko, Yinxia Ren, and Caroline Uhler. Long lunch breaks provided opportunities for graduate students, junior and senior researchers to interact. There was also time for social events. On Wednesday afternoon, participants had the chance to explore both Evanston and Chicago. On Thursday evening, there was an unforgettable dinner at Tapas Barcelona with live music performances and sing-along led by Greg Lawler and Tom Alberts.

The weather was perfect the whole week but foremost it was five days of amazing and inspiring talks. In case you want to check by yourself, check the conference webpage! For the first time in the history of SPAs the plenary talks were recorded and are now available to the public.

Antonio Auffinger, Greg Lawler
Co-chairs - Organizing Committee
Evanston, Chicago

Brazilian School of Probability: July 22–27, 2019; São Carlos, Brazil



The XXIII Brazilian School of Probability (XXIII Escola Brasileira de Probabilidade) was held at the São Carlos campus of the University of São Paulo, during the week July 22–27, 2019, under the organization of the ICMC, USP–São Carlos.

In view of the sad news of the passing away of Vladas Sidoravicius on May 23rd and given his importance to the development of probability, particularly in Brazil, the members of the organizing committee decided to dedicate this edition of the school to his memory. There was a memorial session for Vladas, and a page about him has been added to the school homepage: <http://ebp23.icmc.usp.br/vladas.html>.

The XXIII EBP gathered around 90 participants, including students and researchers. Two minicourses were delivered: *Spatial population models*, by Al-

ison Etheridge (Oxford), and *Malliavin calculus and normal approximations*, by David Nualart (University of Kansas). There were ten plenary lectures on a wide range of topics: *Recent results around long-range Ising models*, by Aernout van Enter (Groningen); *Random forests, local equilibria and Markovian spectra*, by Alexandre Gaudillièr (Aix-Marseille); *The geometry of last-passage percolation models*, by Firas Rassoul-Agha (Utah); *Absorbing-State phase transitions*, by Leonardo Rolla (UBA and NYU-Shanghai); *Abelian oil and water dynamics does not have an absorbing-state phase transition*, by Alexandre Stauffer (Bath and Roma Tre); *Some subcritical properties in continuum percolation*, by Marie Thérèr (Paris Nanterre); *Random matrices, operators and analytic functions*, by Benedek Valkó (Wisconsin-Madison); *A Martingale approach for fractional Brownian motions and related path dependent*

PDEs, by Frederi Viens (Michigan State University); *Invariance principle for symmetric Feller processes on trees*, by Anita Winter (Universität Duisburg-Essen); *Asymptotic behavior of random walks and growth of groups*, by Tianyi Zheng (UC San Diego). There were 21 short talks and two poster sessions, where participants could present their ongoing research projects and discuss.

The financial support was given by the official agencies CAPES, CNPq, FAPESP, and by the University of São Paulo, through the Institute of Mathematics and Statistics. The EBP had the sponsorship of the Bernoulli Society.

More information available on the event homepage

<http://ebp23.icmc.usp.br/>.

Organizing Committee: Luis Renato Fontes (IME-USP), Sandro Gallo (DES-UFSCar), Maria Eulalia Vares (IM-UFRJ), Paulo A. Faria da Veiga (ICMC-USP).

Scientific committee: Anna De Masi (LAquila), Pablo Augusto Ferrari (IME-USP and UBA), Luis Renato Fontes (IME-USP), Thomas Mountford (EPFL), Pierre Picco (I2M, Aix-Marseille), Timo Seppäläinen (Wisconsin), Maria Eulalia Vares (IM-UFRJ), Paulo A. Faria da Veiga (ICMC-USP).

Maria Eulalia Vares
Member of the Organizing Committee
Rio de Janeiro

EYSM: July 29 – August 2, 2019; Belgrade, Serbia

The 21st European Young Statisticians Meeting was organized by the University of Belgrade - Faculty of Mathematics, under auspices of Bernoulli Society and The Ministry of Education, Science and Technological Development of the Republic of Serbia. The members of local organizing committee were Bojana Milošević (chair), Marko Obradović (vice-chair), Blagoje Ivanović, Danijel Subotić and Marija Minić. The International scientific committee (Apostolos Batsidis, Bettina Porvázsnyik, Bojana Milošević, Bruno Ebner, David Preinerstorfer, Deniz İnan, Eduardo García-Portugués, Johanna Ärje, Juan-Juan Cai, Laetitia Teixeira, Måns Thulin, Marko Obradović, Nenad Šuvak, Nina Munkholt Jakobsen, Radim Navrátil, Riccardo De Bin, Tobias Fissler, Wiktor Ejsmont) was responsible for selecting 48 young statisticians from 27 European countries: Armenia, Austria, Belgium, Bulgaria, Croatia, Czechia, Cyprus, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, The Netherlands, Norway, Poland, Portugal, Russia, Serbia, Slovakia, Spain, Switzerland, Turkey, Ukraine, and United Kingdom.



Besides invited young statisticians, five eminent scientists gave 60-minutes keynote lectures. Professor Peter Rousseeuw (KU Leuven, Belgium) delivered a talk on the outlier detection problem. Professor

Pavle Mladenović (Faculty of Mathematics, University of Belgrade, Serbia) gave a talk about extreme values of samples from stationary sequences and incomplete samples from stationary sequences. One part of the talk was dedicated to several combinatorial problems from extreme value theory point of view. Professor Ana Colubi (Justus-Liebig-University Giessen, Germany) talked about the general framework to analyze fuzzy data. Professor M. Dolores Jiménez Gamero (University of Seville, Spain) delivered a talk about applications of the empirical characteristic function to, mainly, model specification testing. Professor Igor Prünster (Bocconi University, Milan, Italy) gave a talk about generalizations of the Dirichlet process by using completely random measures as a unifying concept.

All participants stayed in hotel Palace which was suitable for making connections and some potential collaborations. Moreover, three social events were organized: the cruising tour "Belgrade from rivers", the Belgrade sightseeing tour that included a visit to the Museum of Yugoslavia and the famous Saint Sava temple, covering two very important periods of Serbian history. The third event was conference dinner in hotel Moskva - one of the oldest hotels in Belgrade.

More information about the Conference such as the complete scientific program, abstracts of all given lectures, the list of participants together with their affiliations and contact information, is available in the [Book of Abstracts](#). The [Proceedings](#), also available online, contains short papers that went through the review process. The [presentations](#) of most of the participants are available at the Conference website www.eysm2019.matf.bg.ac.rs.

We are thankful to all keynote speakers and young participants for providing an excellent scientific program and great vibes that made this event special.

Bojana Milošević
Chair - Local Organizing Committee
Belgrade

Other Events

DSSV 2019: August 13–15, 2019; Kyoto, Japan



The conference Data Science, Statistics & Visualisation 2019 (DSSV-2019) took place from August 13-15, 2019, at Doshisha University in Kyoto city, Japan, as a satellite meeting of the 62nd ISI World Statistics Congress. This conference, organized by IASC, was also co-sponsored by the Japan Statistical Society (JSS), the Japanese Society of Computational Statistics (JSCS), and the Institute of Statistical Mathematics. DSSV-2019 had 216 attendants from fifteen countries and was concluded successfully. The details of the conference are found at the web site at <http://iasc-isi.org/dssv2019/>.

Di Cook (Monash Univ., Australia), Kwan-Liu Ma (Univ. of California, USA), and Richard Samworth (Univ. of Cambridge, UK) presented keynote talks. Genevera Allen (Rice Univ., USA), Yongdai Kim (Seoul National Univ., Korea), Hidetoshi Shimodaira (Kyoto Univ., Japan), and Huixia Judy Wang (George-Washington Univ., USA) gave invited talks.

The Society for Business and Industrial Statistics (ISBIS), JSS, JSCS, a brain scientist group, and others organized nine invited talks sessions, in which a total of 23 talks were given. In 18 contributed paper sessions, a total of 59 papers were read orally. Further, 37 poster presentations were performed, among which five outstanding ones were awarded.

The subjects of the keynote/invited talks and the presentations in the sessions covered various areas of data sciences, statistics, visualisation, machine learning, computer science, informatics, and others.

The reception on August 13 and the conference dinner with watching Kyoto Geisha dances on August 14 facilitated the communication among the attendants.

Peter Filzmoser
Chair - Scientific Programme Committee
Wien

GOFCP 2019: September 6-8, 2019; Trento, Italy

The 4th Workshop in Goodness of Fit, Change Point and related problems took place at the Department of Economics and Management of the University of Trento, Italy, on 6-8 September 2019.



Previous workshops were held in Sevilla (2012), Athens (2015) and Bad Herrenalb (2017). This edition counted 34 invited speakers as well as two poster sessions to which 9 invited PhD's students or early stage researchers presented their works.

The main themes of the event included, but were not limited to, new approaches to classical GOF testing and CP analysis, applications in econometrics and time

series, analysis of count data, functional and high-dimensional data. The variety of topics and the quality of the works presented witnessed the capacity of the themes of the workshop to keep up-to-date with the modern developments of statistical theory and applications as well as to attract talented researchers of all ages.

The workshop has also been the occasion for a career-tribute to Marie Hušková and Winfried Stute for their important contributions to statistical theory.

The Scandinavian Journal of Statistics, following the usual rigorous standards, will publish a special issue dedicated to the themes of the workshop.

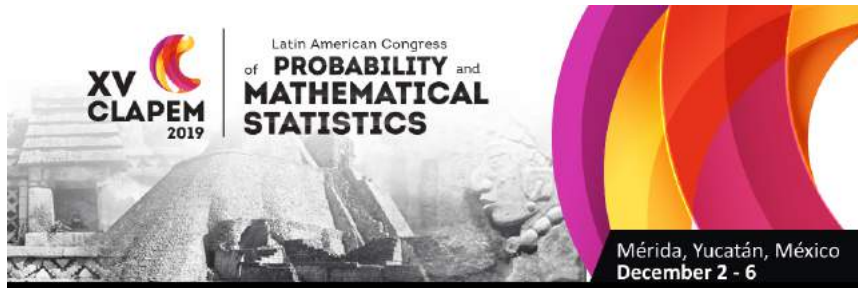
Detail on the programme, members of the Scientific Program Committee and the Local Organizing Committee, as well as a complete video coverage of the event can be found at the permanent workshop website at <https://event.unitn.it/gofcp2019/>.

Emanuele Taufer
Member of the Local Organizing Committee
Trento

Forthcoming Conferences, Meetings and Workshops, and Calendar of Events

Sponsored and Co-Sponsored by  Bernoulli Society
for Mathematical Statistics
and Probability

CLAPEM 2019: December 2-6, 2019; Mérida, Yucatán, México



From December 2nd to the 6th 2019, the Mexican city of Mérida host 300 members of the Latin American community of mathematical statisticians and probabilists, gathered to share their most recent advances and to foster collaboration within the region and beyond.

CLAPEM 2019 will offer a broad range of probabilistic and statistical fields. The release of its preliminary program has recently been announced. Fourteen plenary and semi-plenary conferences, two courses, and ten thematic sessions will be complemented with 21

contributed sessions, organized by researchers from ten different countries in the world.

Please feel free to visit the CLAPEM website (<http://clapem2019.eventos.cimat.mx>), which includes a description of the city of Mérida in the context of history and the Mayan culture, and share your thoughts in our Twitter and Facebook accounts.

*Victor Rivero
Member of the Scientific Committee
Guanajuato*

Probabilistic Coupling and Geometry Workshop: December 9-10, 2019; Coventry, UK



This two day meeting will coincide with a celebration of Professor Wilfrid Kendall's 65th birthday. A number of interesting topics have recently emerged as exciting and fruitful areas of research within the probability community; these all involve, in one way or another, understanding the interplay between properties of couplings of stochastic processes and the geometry of the underlying state space. The workshop will bring together an international group of leading academics from diverse fields that use coupling ar-

guments, and will be of interest to those working on adaptive MCMC samplers, links between probability and geometry, statistical shape analysis, and perfect simulation algorithms.

The confirmed line up of main speakers is as follows:

- Dr Sayan Banerjee (University of North Carolina)
- Dr Julia Brettschneider (University of Warwick)
- Prof. Krzysztof Burdzy (University of Washington)
- Dr Elisabetta Candellero (Universita' degli Studi Roma Tre)
- Prof. Huiling Le (University of Nottingham)
- Prof. Gareth Roberts (University of Warwick)
- Prof. Jeff Rosenthal (University of Toronto)
- Dr Giacomo Zanella (Universita' Bocconi)

There is a small budget to support a number of UK-based research students. Please contact the workshop organisers for details.

Stephen Connor
Member of the Organizing Committee
York

FPD'20: May 8-10, 2020; Las Vegas, Nevada



Frontier Probability Days 2020 (FPD'20) is a regional workshop, taking place at the University of Nevada, Las Vegas, Nevada on May 8-10, 2020. Its purpose is to bring together mathematicians, both regionally and globally, who have an interest in probability and its applications. FPD aims to complement other regional conferences in Probability that are held annually elsewhere in the US.

Main Talks:

- David Anderson (University of Wisconsin)
- Hakima Bessaih (University of Wyoming)
- Ioana Dumitriu (University of California, San

Diego)

- Natesh Pillai (Harvard University)
- Samy Tindel (Purdue University)
- Ramon van Handel (Princeton University)
- Atilla Yilmaz (Temple University)

There will also be many shorter talks. If you would like to participate and/or speak at the conference, please fill out a registration form on or before April 19, 2020.

Registration is required but is free.

Travel and lodging expenses may be partially covered from a grant from the National Science Foundation. If you would like to be considered for financial support, fill out a registration form before March 22, 2020 and check the corresponding button. See the Support page for more information.

Graduate students and postdoctoral fellows are especially encouraged to apply.

The Editor
Madrid

ISNPS 2020: June 15-19, 2020; Paphos, Cyprus



We are pleased to announce that the next International Symposium on Nonparametric Statistics will be held in Paphos, Cyprus, from 15-19 June 2020. In the tradition of the successful ISNPS conferences in Chalkidiki (2012), Cadiz (2014), Avignon (2016) and Salerno (2018), this meeting will bring together new and established researchers to consider a broad range of topics from nonparametric and semiparametric statistics. The program will include plenary lectures, invited and contributed talks, and posters.

Scientific committee chairs are Efstathios Paparoditis (contact: stathisp@ucy.ac.cy) and Ingrid Van Keilegom.

More details: <http://cyprusconferences.org/isnps2020/>

Efstathios Paparoditis
Chair Scientific Committee
Nicosia

Other Events

IWFOS 2020: 24–26 June, 2020; Brno, Czech Republic



Following the success of the previous four meetings held in Toulouse (France, 2008), Santander (Spain, 2011), Stresa (Italy, 2014) and A Coruña (Spain, 2017), it is our pleasure to announce that the 5th International Workshop on Functional and Operatorial Statistics IWFOS 2020 will be held in Brno (Czech Republic), from 24th to 26th June 2020. The workshop will cover all topics in the broad area of infinite-dimensional statistics, such as: statistical modelling for functional variables; functional data analysis; operator-based statistics. Contributions in high-dimensional statistics are also welcomed. The list of confirmed invited speakers is below:

- Gérard Biau (Sorbonne Université, France).
- Eduardo García-Portugués (Universidad Carlos III de Madrid, Spain).
- Lajos Horváth (University of Utah, USA).
- Roberto Imbuzeiro Oliveira (IMPA, Brazil).
- Dominik Liebl (Universität Bonn, Germany).
- Regina Y. Liu (Rutgers, USA).

- Stanislav Nagy (Charles University, Czech Republic).
- Piercesare Secchi (Politecnico di Milano, Italy).
- Yoav Zemel (Georg-August-Universität Göttingen, Germany).

The preliminary schedule is as follows. During 3 days (6 half days), the workshop will offer about 10 invited talks, 30 contributed talks and poster sessions. There will be no parallel sessions. Short communications will be published in a peer-reviewed proceedings volume. Full papers may be published in a special issue of an international journal (to be specified). Further details on the meeting are available from:

<https://iwfos2020.sci.muni.cz>

Hoping to see you in Brno.

M. Hušková, P. Vieu, I. Horová & G. Aneiros
On behalf of the Scientific and Organizing Committees
Czech Republic

ERCIM 2019: 14–16 December, 2019; London, UK

CMStatistics 2019 (ERCIM 2019)

12th International Conference of the ERCIM WG on
 Computational and Methodological Statistics (CMStatistics 2019)
 14-16 December 2019, Senate House University of London, UK



14–16 December (2019) London, UK

<http://cmstatistics.org/CMStatistics2019/>



ANZSC2020: 6–10 July, 2020; Gold Coast, Australia

Australian Statistical Society and New Zealand Statistical Association Conference



6–10 July (2020)


Gold Coast, Australia

Gold Coast Convention and Exhibition Centre



<https://anzsc2020.com.au/>



Calendar of Events

This calendar lists all meetings that have been announced in this and previous issues of *Bernoulli News* together with forthcoming meetings organized under the auspices of the Bernoulli Society or one of its Regional Committees (marked by )

A more comprehensive calendar of events is available on the ISI Websites

- www.bernoulli-society.org/index.php/meetings
- www.isi-web.org/index.php/activities/calend

December 2019


-  December 2–6 (2019), *Latin American Congress of Probability and Mathematical Statistics (CLAPEM)*; Merida, Yucatán, Mexico.
-  December 9–10 (2019), *Probabilistic Coupling and Geometry Workshop*; Warwick, UK.
- December 14–16 (2019), *ERCIM 2019 (CM-Statistics 2019)*; London, UK.

May 2020


Quote of the Issue:

“And, whereas in the first issue 15 years ago, Ole Barndorff-Nielsen wrote the presidential letter, now I have the pleasure of writing about recent undertakings aimed at strengthening the scientific impact of the Society and improving its services to the members.”

Claudia Klüppelberg

-  May 8–10 (2020), *Frontier Probability Days 2020 (FPD'20)*; Las Vegas, Nevada, Usa.


June 2020

-  June 15–19 (2020), *International Symposium on Nonparametric Statistics (ISNPS)*; Paphos, Cyprus.
- June 24–26 (2020), *IWFOS 2020 (International Workshop on Functional and Operatorial Statistics)*; Brno, Czech Republic.

July 2020

- July 6–10 (2020), *ANZSC2020: Australian Statistical Society and New Zealand Statistical Association Conference*; Gold Coast, Australia.

August 2020

-  August 17–21 (2020), *World Congress in Probability and Statistics*; Seoul, South Korea.

Recent Issues of Official Publications

Bernoulli

Vol. 25, No. 4B: November 2019

Editors-in-Chief: M. Podolskij & M. Reiß

<http://projecteuclid.org/current/euclid.bj>

- "Functional CLT for martingale-like nonstationary dependent structures," F. Merlevède, M. Peligrad, S. Utev, 3203–3233.
 "Rate of convergence to equilibrium for discrete-time stochastic dynamics with memory," M. Varvenne, 3234–3275.
 "Least squares estimation in the monotone single index model," F. Balabdaoui, C. Durot, H. Jankowski, 3276–3310.
 "Adaptively weighted group Lasso for semiparametric quantile regression models," T. Honda, C. Ing, W. Wu, 3311–3338.
 "Networks of reinforced stochastic processes: Asymptotics for the empirical means," G. Aletti, I. Crimaldi, A. Ghiglietti, 3339–3378.
 "Limiting saddlepoint relative errors in large deviation regions under purely Tauberian conditions," R.W. Butler, A. T. Wood, 3379–3399.
 "Rate of divergence of the nonparametric likelihood ratio test for Gaussian mixtures," W. Jiang, C. Zhang, 3400–3420.
 "Concentration of weakly dependent Banach-valued sums [...]," G. Blanchard, O. Zadorozhnyi, 3421–3458.
 "Nonparametric empirical Bayes improvement of shrinkage estimators [...]," E., Greenshtein, A. Mantzura, Y. Ritov, 3459–3478.
 "Two-sided infinite-bin models and analyticity for Barak–Erdős graphs," B. Mallein, S. Ramassamy, 3479–3495.
 "Moving block and tapered block bootstrap for functional time series [...]," D. Pilavakis, E. Paparoditis, T. Sapatinas, 3496–3526.
 "Bernstein-type exponential inequalities in survey sampling: Conditional Poisson sampling schemes," P. Bertail, S. Cléménçon, 3527–3554.
 "Asymptotic equivalence of fixed-size and varying-size determinantal point processes," S. Barthelmé, P. Amblard, N. Tremblay, 3555–3589.
 "The eigenstructure of the sample covariance matrices of high-dimensional stochastic volatility models [...]," J. Heiny, T. Mikosch, 3590–3622.
 "Gaps and interleaving of point processes in sampling from a residual allocation model," J. Pitman, Y. Yakubovich, 3623–3651.
 "Harmonic measure for biased random walk in a supercritical Galton–Watson tree," L. Shen, 3652–3672.
 "Integral expression for the stationary distribution of reflected Brownian motion in a wedge," S. Franceschi, K. Raschel, 3673–3713.
 "Equivalence of some subcritical properties in continuum percolation," J. Gouéré, M. Théret, 3714–3733.
 "Estimating the input of a Lévy-driven queue by Poisson sampling of the workload process," L. Ravner, O. Boxma, M. Mandjes, 3734–3761.
 "Estimation of fully nonparametric transformation models," B. Colling, I. Van Keilegom, 3762–3795.
 "Long-time heat kernel estimates and upper rate functions of Brownian motion type [...]," Y. Shiozawa, J. Wang, 3796–3831.
 "Consistent estimation of the spectrum of trace class Data Augmentation algorithms," S. Chakraborty, K. Khare, 3832–3863.
 "Principal components analysis of regularly varying functions," P. Kokoszka, S. Stoev, Q. Xiong, 3864–3882.
 "Structured matrix estimation and completion," O. Klopp, Y. Lu, A.B. Tsybakov, H.H. Zhou, 3883–3911.
 "Rademacher complexity for Markov chains: Applications to kernel smoothing and Metropolis–Hastings," P. Bertail, F. Portier, 3912–3938.
 "Inverse exponential decay: Stochastic fixed point equation and ARMA models," K. Burdzy, B. Kolodziejek, T. Tadić, 3939–3977. "Weighted Poincaré inequalities, concentration inequalities and tail bounds related to Stein kernels in dimension one," A. Saumard, 3978–4006.

Stochastic Processes and their Applications

Vol. 129, No. 10: October 2019

Editor-in-Chief: S. Méléard

<http://www.sciencedirect.com/science/journal/03044149>

- "An intrinsic calculus of variations for functionals of laws of semi-martingales," R. Lassalle, A.B. Cruzeiro, 3585–3618.
 "Independence times for iid sequences, random walks and Lévy processes," M. Vidmar, 3619–3637.
 "The tamed unadjusted Langevin algorithm," N. Brosse, A. Durmus, E. Moulines, S. Sabanis, 3638–3663.
 "Probability density function of the local score position," A. Lagnoux, S. Mercier, P. Vallois, 3664–3689.
 "Hereditary tree growth and Lévy forests," T. Duquesne, M. Winkel, 3690–3747.
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 "Statistical inference for Vasicek-type model driven by Hermite processes," I. Nourdin, T.T. Tran, 3774–3791.
 "Global martingale solutions for a stochastic population cross-diffusion system," G. Dhariwal, A. Jüngel, N. Zamponi, 3792–3820.
 "On the trajectory of an individual chosen according to supercritical Gibbs measure [...]," X. Chen, T. Madaule, B. Mallein, 3821–3858.
 "Forward–backward stochastic differential equations with monotone functionals [...]," S. Ahuja, W. Ren, T. Yang, 3859–3892.
 "How does geographical distance translate into genetic distance?," V.M. Pina, E. Schertzer, 3893–3921.
 "Disagreement percolation for Gibbs ball models," C. Hofer-Temmel, P. Houdebert, 3992–3940.
 "Continuum percolation for Cox point processes," C. Hirsch, B. Jahnel, E. Cali, 3941–3966.
 "About the rate function in concentration inequalities for suprema of bounded empirical processes," A. Marchina, 3967–3980.
 "Asymptotic behavior for an additive functional of two independent self-similar Gaussian processes," D. Nualart, F. Xu, 3981–4008.
 "Ergodic BSDE with unbounded and multiplicative underlying diffusion [...]," Y. Hu, F. Lemonnier, 4009–4050.
 "Statistical inference for misspecified ergodic Lévy driven stochastic differential equation models," Y. Uehara, 4051–4081.
 "Operator-stable and operator-self-similar random fields," D. Kremer, H.P. Scheffler, 4082–4107.
 "Viability of an open set for stochastic control systems," R. Buckdahn, H. Frankowska, M. Quincampoix, 4108–4118.
 "Multivariate stochastic delay differential equations [...]," A. Basse-O'Connor, M.S. Nielsen, J. Pedersen, V. Rohde, 4119–4143.
 "Small time convergence of subordinators with regularly or slowly varying canonical measure," R. Maller, T. Schindler, 4144–4162.
 "Strong laws of large numbers for intermediately trimmed Birkhoff sums of observables [...]," M. Kesseböhmer, T. Schindler, 4163–4207.

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<http://goo.gl/G9A0gl>

Co-Sponsored by  Bernoulli Society
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Have a look at <http://goo.gl/7EP2cZ> for the latest articles in *Electronic Communications in Probability*, *Electronic Journal of Probability*, *Electronic Journal of Statistics*, *Probability Surveys* and *Statistics Surveys*, as well as *International Statistical Review*.

Who is Who in the Bernoulli Society

Executive Committee 2015–2017

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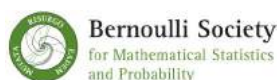
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"If you are already a member, encourage your colleagues, postdocs and PhD Students to join the Bernoulli Society."



Publications and Meetings

The Bernoulli Society official journals are *Bernoulli* and *Stochastic Processes and their Applications*. In addition, the BS co-sponsors the following open-access online publications: *Electronic Communications in Probability*, *Electronic Journal of Probability*, *Electronic Journal of Statistics*, *Latin American Journal of Probability and Mathematical Statistics*, *Probability Surveys* and *Statistics Surveys*. Published twice a year, *Bernoulli News* provides detailed information about activities of the Society, while *Bernoulli e-Briefs* is a bimonthly electronic information bulletin that summarizes and draws the attention of relevant information to the membership.

The Bernoulli Society organizes or sponsors several international meetings which have a prominent relevance in the fields of mathematical statistics, probability, stochastic processes and their applications. These meetings are often held in conjunction with the ISI and other ISI Associations, the IMS or by the BS Regional and Standing Committees. Some of the meetings with a proud tradition are the *Bernoulli-IMS World Congress in Probability and Statistics* every four years, the *Conference on Stochastic Processes and their Applications* (SPA) organized every year, the *ISI World Statistics Congress* (formerly ISI Session), the *Latin American Congress in Probability and Mathematical Statistics* (CLAPEM) organized every two or three years, the *European Meeting of Statisticians* (EMS) organized every two years and the *European Young Statisticians Meeting* (EYSM) organized every two years.

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- Reduced registration fees for meetings organized or sponsored by the Bernoulli Society.
- Free online access to *Bernoulli* (back to the first issue in 1995) and to *Stochastic Processes and their Applications* (back to the first issue in 1973).
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Membership Application and Fees

Online Applications for Membership

- Bernoulli Society membership
<http://isi.cbs.nl/bern-form.asp>
- Joint BS-IMS membership
<https://secure.imstat.org/secure/orders/IndMember.asp>
- Joint BS-IMS-ISI membership
http://isi.cbs.nl/bern_ims_isi-form.asp

Membership Fees for 2019

- Full members: €80.
- First year of membership for members from developed countries: €40.
- Members from developing countries, first two years of postdoc, retired members: €24.
- Joint BS-IMS membership: \$150.
- Joint BS-IMS-ISI membership (only for elected ISI Members): €180.
- PhD Students: Free!!!

BERNOULLI - IMS 10th WORLD CONGRESS in PROBABILITY and STATISTICS

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AUGUST
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MARCH 31, 2020

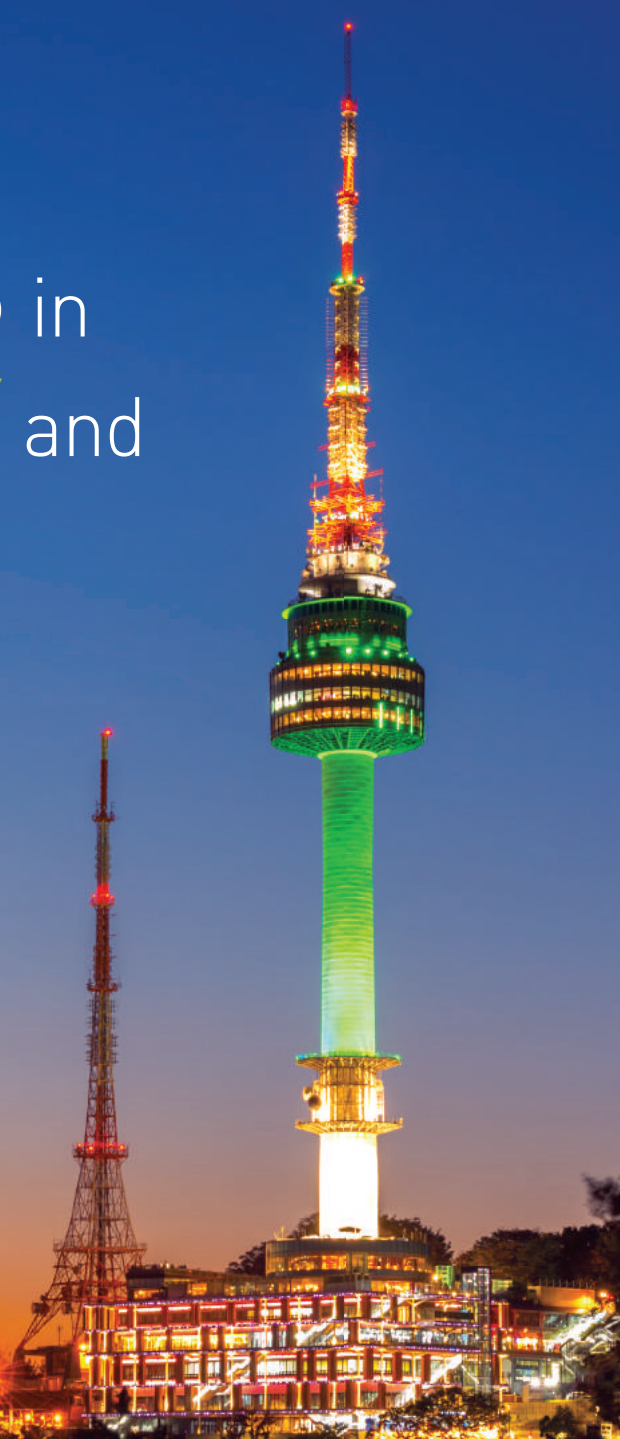
Abstract Submission Deadline

APRIL 15, 2020

Abstract Acceptance Notifications

MAY 31, 2020

Early-bird Registration Deadline





WELCOME MESSAGE

Dear Colleagues and Friends,

On behalf of the local organizing committee, it is with great delight that we welcome you to Seoul National University in Seoul, South Korea for the 10th World Congress in Probability and Statistics (WC2020), jointly organized by the Bernoulli Society and IMS, from August 17 to 21, 2020. We are expecting to attract more than 900 experts from over 40 countries.

Held every four years, the congress is a worldwide event covering all branches of statistics and probability. This includes the latest scientific breakthroughs in theoretical, methodological, applied and computational statistics and probability, as well as stochastic processes.

We believe WC2020 will bring transformation and further advancement to the scientific level and quality of the study of statistics and probability.

As the largest city in South Korea, dynamic Seoul is a bewitching mix of ancient and modern structures, packaged in a surprisingly compact metropolis that has earned it the designation of a UNESCO City of Design.

We look forward to seeing you in Seoul, Korea.

Sincerely,

Hee-Seok Oh

Chair of the Local Organizing Committee
Department of Statistics, Seoul National University



SEOUL, KOREA

The Korean Peninsula extends about 1,000 km from the Asian continent into the Pacific Ocean with more than 3,000 islands dotting the coastline. Mountains cover almost 70 percent of the land mass, making the country one of the most mountainous regions in the world and offering abundant forest resources. Administratively, Korea consists of nine provinces with 77 small cities and 88 counties.

With a history stretching back more than two thousand years, Seoul is also a rising global star as one of the world's most wired cities, ranked first in technology readiness. In Seoul you will experience millennia of royal palaces and historic sites among a futuristic backdrop of some of the world's most innovative and daring architecture, such as the chicly designed Dior building or recently inaugurated Seoullo 7017.



MAIN SPEAKERS

Named Lectures

Kolmogorov Lecture

Persi Diaconis (Stanford University)

Bernoulli Lecture

Alison Etheridge (University of Oxford)

Levy Lecture

Massimiliano Gubinelli (University of Bonn)

Laplace Lecture

Tony Cai (University of Pennsylvania)

Tukey Lecture

Sara van de Geer (ETH Zurich)

Wald Lecture

Martin Barlow (University of British Columbia)

Blackwell Lecture

Gabor Lugosi (Pompeu Fabra University)

Doob Lecture

Nicolas Curien (Université Paris-Sud Orsay)

Schramm Lecture

Omer Angel (University of British Columbia)

IMS Medallion Lectures

Gerard Ben Arous (New York University)

Andrea Montanari (Stanford University)

Elchanan Mossel (MIT)

Laurent Saloff-Coste (Cornell University)

Daniela Witten (University of Washington)

Public Lecture

To be named

IMS Presidential Address

Susan Murphy (Harvard University)

